

NASA taking space-station delivery applications

By Washington Post, adapted by Newsela staff on 03.18.15

Word Count **1,095**



Seen here is SpaceX's unmanned Dragon cargo spacecraft docked to the International Space Station with a load of supplies and equipment for the station crew. Photo: NASA

WASHINGTON — Lugging groceries and supplies to the astronauts on the International Space Station may not be as cool as transporting the astronauts themselves into orbit. But the NASA contract to fly cargo to the station in unmanned rocket ships has attracted several companies to apply for the job.

Analysts say the bids to go to space is another indication of commercial spaceflight's recent rebirth.

It appears that at least five space companies have submitted proposals for the work. Even giant companies such as Boeing and Lockheed Martin, which did not bother to bid on the work the last time, are trying to get dibs. In a new sort of space race, the contract has touched off an intense competition. Traditional defense contractors that build military equipment and planes, like Boeing and Lockheed Martin, are eager for the NASA contract. New space startup companies are in competition with those heavy-hitter defense companies for the NASA contracts.

Delivery Service To Space

Years ago, NASA implemented a plan to outsource transportation to the space station in low Earth orbit. They noted that with a tight budget, the agency had less money available, and needed to focus on bigger targets, such as Mars.

Some members of Congress and others criticized the decision. They argued that private industry could not be trusted with such high-stakes work and that the business of spaceflight should be left to NASA. But in the years since, NASA's decision to rely on commercial companies helped ignite the commercial space industry. These new companies have grown more robust by raising money from private businesses and not having to rely on tax dollars from the government.

For the past few years, two companies have been resupplying the space station, taking supplies and experiments to the orbital laboratory. Billionaire entrepreneur Elon Musk's SpaceX won a \$1.6 billion contract with NASA. So far, SpaceX has had five successful trips to the space station, and is scheduled for a sixth trip in April.

The other company to win the cargo contract, Orbital Sciences, now Orbital ATK, had its unmanned rocket explode shortly after takeoff last year. The explosion raised questions about whether NASA should be relying on private businesses so heavily.

Space Flight Funding Takes Off

The explosion did not dampen enthusiasm for outsourcing the work at NASA. In part, people are excited by SpaceX's success. But also given NASA's tight budgets, the government agency does not really have a choice but to hire contractors to do the work for it, analysts said.

The private space industry has been buoyed by billionaires, such as Musk, Richard Branson, who owns Virgin Galactic, and Jeff Bezos, the Amazon.com founder who owns Blue Origin (as well as the Washington Post).

But now others are looking to invest in space as well. On a recent trip to Silicon Valley, Eric Stallmer, the president of the Commercial Spaceflight Federation, said many other investors seemed to have a fear-of-missing-out vibe.

"Tell me the companies I need to be looking out for," he said they asked. "Never have we seen this level of investment come in."

In January, SpaceX announced it had received a \$1 billion investment from Google and Fidelity Bank. Planet Labs, which builds and operates satellites, also announced this year that it had received \$95 million in funding.

The money, or interest, in space wasn't there just a few years ago.

Outsourcing The Last Frontier

At the time of the last cargo contract, "the environment looked different," said Marco Caceres, a financial analyst with the Teal Group, which analyzes the aerospace and defense industries. "A lot of people were saying this is wrong; NASA has to have its own rocket."

SpaceX's successful launches propelled the once unheard of startup into the mainstream. It also demonstrated, even to the large, traditional defense companies, that there is money to be made in space.

Last year, NASA awarded contracts to SpaceX and Boeing, worth some \$6.8 billion, to take astronauts to the space station. In the coming months, it is expected to award another contract for cargo resupply, which could also be worth billions.

This time, the big players are lining up for a piece of the action.

Boeing Steps To The Plate

Fresh off its win to take astronauts to the space station, Boeing believes it has a good shot. Its CST-100 capsule, originally designed for astronauts, could easily be reconfigured to handle cargo, said John Mulholland, a Boeing vice president in its space programs.

Unlike some space vehicles that plop down in the sea, the CST-100 can land on the ground, with a combination of parachutes and air-bag-like balloons that deploy under the capsule to ensure a soft landing.

The company did not bid on the last cargo contract, but is not surprised so many are bidding now.

Mulholland said there is more recognition that there is a market now and in the future for commercial planes flying to low Earth orbit, "and that is why you see more competition emerging."

Also In The Lineup

Despite the explosion in October, Orbital ATK said its experience delivering cargo to the space station unsuccessfully gives it an edge. "We've proven the system works and works extremely well," spokesman Barron Beneski said. "NASA knew we were a partner they could rely on."

A spokesman for SpaceX would not confirm whether the company was trying for the job, but analysts said that after its recent successes, it would not pass up the opportunity.

The world's largest defense contractor, Lockheed Martin, is in as well. The company is promising to unveil "an innovative, reliable solution" at an invitation-only cocktail reception at Washington's Union Station this week. Lockheed makes the Orion space capsule, which NASA launched on a historic mission late last year, sending the spacecraft farther than any vehicle designed for human travel had gone in 40 years. No one was on board the test flight of the Orion capsule, which will someday carry astronauts into deep space.

It Will Be A Tough Call

Then there is the Sierra Nevada Corporation. It made it to the final round of the contract to take astronauts to the space station but ultimately lost. Still, NASA has invested more than \$363 million in its Dream Chaser space plane, which looks like a miniature version of the space shuttle and can land on airport runways.

It is an entirely different approach than the other companies' offerings, which is in part why it "can't be counted out," said Caceres, the space analyst. "It will once again put pressure on NASA to make a tough call."

Quiz

- 1 Select the paragraph from the section "Delivery Service To Space" that BEST explains why NASA is giving private companies space contracts.
- 2 Which sentence BEST explains what has happened in the space industry since NASA started awarding contracts?
 - (A) But in the years since, NASA's decision to rely on commercial companies helped ignite the commercial space industry.
 - (B) Some members of Congress and others criticized the decision.
 - (C) So far, SpaceX has had five successful trips to the space station, and is scheduled for a sixth trip in April.
 - (D) The explosion did not dampen enthusiasm for outsourcing the work at NASA.
- 3 Information from which of these sub-headings is LEAST important in shaping the main idea of this article?
 - (A) "Delivery Service To Space"
 - (B) "Space Flight Funding Takes Off"
 - (C) "Outsourcing The Last Frontier"
 - (D) "Boeing Steps To The Plate"

4 If this article were to be rewritten to focus on the risks associated with awarding government contracts to private companies, which paragraph would be the MOST useful?

- (A) The other company to win the cargo contract, Orbital Sciences, now Orbital ATK, had its unmanned rocket explode shortly after takeoff last year. The explosion raised questions about whether NASA should be relying on private businesses so heavily.
- (B) The explosion did not dampen enthusiasm for outsourcing the work at NASA. In part, people are excited by SpaceX's success. But also given NASA's tight budgets, the government agency does not really have a choice but to hire contractors to do the work for it, analysts said
- (C) But now others are looking to invest in space as well. On a recent trip to Silicon Valley, Eric Stallmer, the president of the Commercial Spaceflight Federation, said many other investors seemed to have a fear-of-missing-out vibe.
- (D) Last year, NASA awarded contracts to SpaceX and Boeing, worth some \$6.8 billion, to take astronauts to the space station. In the coming months, it is expected to award another contract for cargo resupply, which could also be worth billions.

Answer Key

- 1 Select the paragraph from the section "Delivery Service To Space" that BEST explains why NASA is giving private companies space contracts.

Paragraph 3:

Years ago, NASA implemented a plan to outsource transportation to the space station in low Earth orbit. They noted that with a tight budget, the agency had less money available, and needed to focus on bigger targets, such as Mars.

- 2 Which sentence BEST explains what has happened in the space industry since NASA started awarding contracts?

(A) But in the years since, NASA's decision to rely on commercial companies helped ignite the commercial space industry.

(B) Some members of Congress and others criticized the decision.

(C) So far, SpaceX has had five successful trips to the space station, and is scheduled for a sixth trip in April.

(D) The explosion did not dampen enthusiasm for outsourcing the work at NASA.

- 3 Information from which of these sub-headings is LEAST important in shaping the main idea of this article?

(A) "Delivery Service To Space"

(B) "Space Flight Funding Takes Off"

(C) "Outsourcing The Last Frontier"

(D) "Boeing Steps To The Plate"

4 If this article were to be rewritten to focus on the risks associated with awarding government contracts to private companies, which paragraph would be the MOST useful?

- (A) **The other company to win the cargo contract, Orbital Sciences, now Orbital ATK, had its unmanned rocket explode shortly after takeoff last year. The explosion raised questions about whether NASA should be relying on private businesses so heavily.**
- (B) The explosion did not dampen enthusiasm for outsourcing the work at NASA. In part, people are excited by SpaceX's success. But also given NASA's tight budgets, the government agency does not really have a choice but to hire contractors to do the work for it, analysts said
- (C) But now others are looking to invest in space as well. On a recent trip to Silicon Valley, Eric Stallmer, the president of the Commercial Spaceflight Federation, said many other investors seemed to have a fear-of-missing-out vibe.
- (D) Last year, NASA awarded contracts to SpaceX and Boeing, worth some \$6.8 billion, to take astronauts to the space station. In the coming months, it is expected to award another contract for cargo resupply, which could also be worth billions.